

COLEOPTERA FROM THE PRIBILOF ISLANDS, ALASKA

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The collection of Coleoptera, made by Dr. Hanna while stationed on the Pribilof Islands during the summer of 1920 contains 21 species, most of them represented by numerous specimens. It includes nearly all of those known to have been found there. In the present report, the lacking ones are mentioned in order to make the list as complete as possible. A short bibliography is also given.

The beetles of the Fur-seal Islands are better known than is any other portion of its insect fauna, many of the species having been known for a long time. The first one to be mentioned was *Carabus truncaticollis* Esch., which was captured by Dr. Eschscholtz while on his second voyage, the second Kotzebue Expedition, 1823-1826, and described in 1833 in his "Zoological Atlas." Eschscholtz does not seem to have visited the Pribilofs during his first voyage, 1815-1818, although he collected on Unalaska Island on that trip and not only described a number of the species captured, in his "Entomographien," published in 1822, but furnished Fisher von Waldheim with a number to be described by him in his "Entomographia imperii russici," published in 1820-1822. Other species named by Eschscholtz were not described by him because of his early death, but by others, such as Count Dejean and Baron von Mannerheim who, of course, are given credit for the same. Meanwhile, other Russians stationed at the Fur-seal Islands, as elsewhere in the Russian possessions in North America, collected specimens and sent them back, chiefly to the two great museums at Moscow and St. Petersburg. Here they were described by various workers, chiefly Ménétries at St. Petersburg and Count von Mannerheim at Moscow. The latter, in his classical "Beitrag zur Käfer-Fauna der Aleutischen Inseln, der Insel Sitkha and Neu-Californiens," published in 1843 in the "Bull. de la Soc. Imper. des Natural. de Moscou," and in his three supplements to the same, published respectively in 1846, 1852, and 1853, gave us the most complete work which has been published

on the Coleoptera of Alaska and one which has served as the basis for all subsequent studies. Since the Pribilof Islands became a part of the United States, small collections of specimens have been made from time to time by various collectors stopping there or by those investigating the fur-seal herds. The two who have collected the most are Professor Trevor Kincaid, who, while working as a student under Dr. Jordan, in 1897, collected a fair series of the Coleoptera, part of which went to the National Museum and part remained behind in his own hands; and Mr. J. August Kusche who made a brief stop there in 1913; the bulk of his material went to the Carnegie Museum at Pittsburgh.

The Coleopterous fauna of the Pribilofs, as shown by the species studied, is distinctly arctic. Most of the species are found also on the Seward Peninsula and other parts of the adjacent mainland. A few are met with on the Aleutian Islands, chiefly the uplands of Unalaska Island; but many of the most characteristic species of the Aleutian Islands, those belonging to the Vancouverian fauna⁶, as I have called it, and which are also to be found along the south side of the Alaska Peninsula and in southeastern Alaska generally, are not to be found on the Pribilof Islands. This would seem to indicate that they had at one time been connected to the mainland to the east or northeast, never with the Aleutian Islands, and had received their fauna from the former.

CARABIDÆ

1. *Carabus truncaticollis* Esch.

Esch., Zoo. Atlas, V (1833), p. 22.

Mots., Bull. Mosc., IV (1845), p. 337, t. 5 f. 3.

Sahlb. J., Col. and Hemiptera of the Vega Exped. (1885), p. 12.

Many specimens. The series shows many color phases, varying from brilliant green through bronze to almost black. This is the largest and most conspicuous beetle found on the islands. Eschscholtz in his original description states that he found this insect both at Kamchatka and on the Islands of St. George and St. Paul. It has since been taken by numerous collectors on the Seward Peninsula and upper Yukon and by the Vega Expedition

⁶ "The Distribution of Insects in Western North America," by Edwin C. Van Dyke, Anns. Ent. Soc. Amer., Vol. XII (March, 1919), pp. 1-12.

at various places in Arctic Siberia from Bering Strait to the Ural Mountains. It has also been recorded from the Sierra Nevada Mountains on the authority of Henry Edwards. This last record, however, I very much doubt.

2. *Nebria bifaria* Mann.

Mann., Bull. Mosc., XXVI (1853), p. 128.

N. Carbonaria Mann., Bull. Mosc., XXV (1852), p. 293.

Heyden, Cat. Col. Siberia, Berlin (1880-81), p. 13.

Six specimens of the typical form with red femora and dark knees, tibia, and tarsi, from St. Paul Island, the type locality. Typical specimens of the same species are also to be found at Teller and Nome, and on the Alaska Peninsula and all black phases with the same at the last locality as well as near the mouth of the Mackenzie. (See Report Canadian Arctic Exped., Vol. III, Insects (1919), p. 14E.) It has also been reported from Kamchatka and by Heyden from various places along the coast of northeastern Siberia. It has not been found on the Aleutian Islands. *Bifaria* is the only *Nebria* that I have seen in the various collections that have been made on the Pribilof Islands. The *Nebria reducta* Casey (Memoirs on Col., IX (1920), p. 150), described from St. Paul Island, I am inclined to believe is not only a dark or fully pigmented phase of *N. viridis* Horn, but may never have been actually taken on the islands. A good deal of the material taken in Alaska has, through carelessness, often been tagged with wrong locality labels by the collectors.

3. *Patrobus septentrionis* Dej.

Dejean, Spec., III (1828), p. 29.

Fossifrons Esch., Mén. de la Soc. Imp. de Natur. de Moscou, VI, p. 104, 9.

Fossifrons Esch., Mann., Bull. Mosc., XVI (1843), (Sep. p. 22).

A series of 28 specimens, three from St. Paul Island, the rest from St. George. These are all similar to the phase described as *fossifrons* Esch., from Unalaska, and found so abundantly there. The species is found on this continent extending from Alaska to Labrador, to the Lake Superior region, down the Rockies to

Colorado, through the Cascades and Sierra Nevada Mountains to Lake Tahoe, and along the lowlands of the West Coast as far south as middle Washington. In the old world, it extends from the Scandinavian Peninsula and Scotland eastward across northern Europe and Siberia to Bering Strait. It varies considerably, and as a result, a great number of varieties and so-called species have been erected at its expense. Very large series, however, from many localities, show that they all grade one into the other.

4. *Pterostichus hyperboreus* Mann.

Mann., Bull. Mosc., XXVI (1853), p. 127.

Ménétr., Käfer Russl., p. 54.

A large series, mostly from St. George Island, though with a few from St. Paul, and containing typical as well as atypical examples. The typical have the area within the hind angles of the pronotum convex and impunctate; in the atypical, the same area is more or less flattened and irregularly punctured. All degrees of variation are observable. The series shows that this species, like all of the others of the subgenus *Cryobius*, is exceedingly variable. The color ranges from a metallic green through violet and bronze to black, the last found generally in the older and more rubbed individuals. In its limited sense, this species is restricted to the Pribilof Islands, but it is, in reality, little more than a geographic race or subspecies of *P. ventricosus* Esch. of Unalaska; the same is true of the more widely distributed mainland form, *P. vindicatus* Mann.

5. *Pterostichus hudsonicus* Lec.

Le Conte, Proc. Acad. Nat. Sci. Phila. (1873), p. 315.

A good series with representatives from both St. George and St. Paul islands. This variable species is not found on the Aleutian Islands, but ranges, on the mainland, from the Seward Peninsula, Alaska, to Labrador, Mt. Washington, N. H., and Lake Superior.

6. *Pterostichus similis* Mén.

Ménétr., Käfer Russl., p. 55.

Mann., Bull. Mosc., XXV (1852), p. 296 (Sep. p. 9).

Var. *quadricollis* Mann., Bull. Mosc., XXVI (1853), p. 133.

Many specimens of the typical form as well as a number of the smaller and broader individuals which would be classed as var. *quadricollis* Mann., all from St. George Island, the type locality for both. This is the third species of the subgenus *Cryobius* from the Pribilofs. I have found it myself on the mountains of Unalaska Island and it has also been taken abundantly on the Seward Peninsula, and according to Sahlberg, at St. Lawrence Bay, Peninsula of Tschutski, Siberia.

7. *Amara brunnipennis* Dej.

Dej., Spec. (1831), V, p. 800.

Twenty specimens of this variable species with representatives from both St. George and St. Paul islands, and with the phases having light and dark elytra, in about equal numbers. This species is not found on the Aleutian Islands, but is common on the mainland and extends from the Seward Peninsula to Labrador, Mt. Washington, N. H., and the high Rocky Mountains of Colorado.

8. *Amara glacialis* Mann.

Mann., Bull. Mosc., XXVI (1853), p. 135.

One specimen from St. Paul Island. This is an interesting addition to the Coleopterous fauna of the Pribilofs. It was described from the Kenai Peninsula, but has since been found at Cockburn Point and Bernard Harbor, Canadian Northwest Territory, Ungava, Hudson Bay, and Labrador, and is stated to be represented by a variety in Kamchatka.

9. *Amara remotestriata* Dej.

Dej., Spec. general des Col., III (1828), p. 473.

Indistincta Mann., Bull. Mosc., XXVI (1853), p. 45.

Reducens Mann., Bull. Mosc., XXVI (1853), p. 46.

Not found by Dr. Hanna but by Professor Kincaid on St. Paul Island, in July, 1897. This species is also found on Atka, Un-

alaska, and Akutan of the Aleutian Islands, on Kodiak, and the Alaska Peninsula, and extends across the continent and as far south on the Atlantic Coast as New Jersey, down the Rocky Mountains to New Mexico, and along the Pacific Coast as far as middle California.

DYTISCIDÆ

10. *Agabus hypomelas* Mann.

Mann., Bull. Mosc., XVI (1843), p. 221 (Sep. p. 97).

Var. *irregularis* Mann., Bull. Mosc., XXVI (1853), p. 72.

Twelve specimens, including some from both St. George and St. Paul islands. It is found also on Unalaska Island, Alaska Peninsula, Kodiak Island, Kenai Peninsula, Sitka, and Vancouver Island. The specimens from the Pribilofs are slightly darker than those seen from Unalaska.

11. *Laccophilus decipiens* Lec.

Lec. Anns. Lyc. Nat. Hist. N. Y., V (1851), p. 205.

Truncatus Mann., Bull. Mosc., XXVI (1853), p. 68.

Californicus Mots., Bull. Mosc., XXXII (1859), II, p. 172.

This species is listed from St. George Island as well as the Kenai Peninsula, on the authority of Mannerheim, but it has not been found farther north than British Columbia in recent years. It is a common species in both Oregon and California. I would questionably admit of its being Alaskan until verified.

SILPHIDÆ

12. *Lyrosoma opacum* Mann.

Mann., Bull. Mosc., XXVI (1853), p. 175.

Sahlb. J., Vega Exped. (1885), p. 66.

Numerous specimens from both St. George and St. Paul islands. It is a widely distributed species in Bering Sea, being found on Bogoslof, Atka, Unalaska, and Bering islands; it is also found on Afognak Island. It lives in the rotting kelp and is at times completely submerged by the tides.

STAPHYLINIDÆ

13. *Atheta graminicola* Gravh.

Gravh., Mon. Col. Micropt. (1806), p. 76.

Stonolota granulata Mann., Bull. Mosc., XIX (1846), p. 508.

Three specimens. This small rove beetle is abundant on Unalaska and Atka islands, and is also to be found on the Alaska Peninsula, Kodiak, Queen Charlotte Islands, as well as in Arctic Europe and Asia.

14. *Quedius fulvicollis* Steph.

Steph., Ill. Brit. Ent., V (1832), p. 244.

Hyperboreus Er., Gen. (1839), p. 547.

Not found by Dr. Hanna, but secured previously by Professor Kincaid. It is found also on Unalaska Island, at Nome, and extends across the continent to Labrador and Newfoundland, to Maine, to Colorado, to Vancouver Island, and is found likewise throughout Europe and Arctic Asia.

15. *Tachinus apterus* Mäklin

Mäklin, Bull. Mosc., XXVI (1853), p. 113.

Six specimens from St. George Island. This species is supposed to be restricted to this island, but though considered distinct by Fauvel, is undoubtedly very closely related to others found at Unalaska and on the mainland.

16. *Arpedium beringenus* Van Dyke, new species

Apterous; nigro piceous, antennæ, palpi, margins of the prothorax and elytra, and feet refuescent. Head triangular, vertex bi-impressed, front slightly convex and shallowly obliquely impressed on each side anteriorly, the disc alutaceous and minutely sparsely punctate, the tempora very prominent, the head rather suddenly constricted behind. Antennæ extending almost to middle of elytra, joints 2, 3 and 4 of about equal length and breadth, slightly more than twice as long as broad, 4—10 gradually shorter and broader but never broader than long or transverse. Prothorax transverse, one-third broader than long, slightly narrowed posteriorly, moderately convex, broadly shallowly emarginate at apex, narrowly emarginate at middle of base, sides

rounded, disc alutaceous and finely sparsely yet distinctly punctate and pilose, more markedly at sides, a fovea at sides in front of middle. Elytra at least a third longer than prothorax and one-half broader, with sides straight and diverging from humeri, the margin fine and reflexed, the apex of each elytron obliquely truncate outwards, the outer apical angles broadly rounded, the disc moderately coarsely punctured and minutely pilose. Abdomen broader than elytra, above minutely rather sparsely punctate and pilose, beneath more definitely but equally punctured. Length 4 mm., breadth 2 mm.

Holotype and three *paratypes* in my collection, collected on St. George Island, Pribilof Islands, Alaska, June 14 and August 5, 1897, by Professor Trevor Kincaid, and by him kindly presented to me. Two *paratypes* collected on St. George Island, July 1, 1920, by Dr. G. Dallas Hanna are in the collection of the California Academy of Sciences, as is also a series of eight specimens of the same from St. Paul Island, collected by Dr. Hanna. In Dr. F. E. Blaisdell's collection, there are also several more from the Pribilofs, collected July, 1911, as well as two from Nome, Alaska, collected June, 1899. In my collection there is one from Teller.

Type locality, St. George Island, Pribilof Group, Alaska.

This species, I have for some time considered as but a dark phase of the widely distributed *Arpedium brunnescens* Sahlb. Upon more careful comparison with that species, I find, however, that it differs not only in color but by being generally more robust, by having antennæ of a different type, the joints 8—10 in *brunnescens* being decidedly transverse, by having more prominent and angular tempora, and a more definite and abundant punctuation and pilosity, the abdomen being especially more punctate and pilose. So far as I know, *beringensis* is local to the Pribilof Islands and the neighboring Seward Peninsula on the mainland, while *brunnescens* is found on Unalaska Island, and extends to Banff, Alberta, and the Lake Superior region. It is also found throughout the arctic portions of Europe and Asia.

17. *Olophrum fuscum* Grav.

Grav., Mon. Col. Micropt. (1806), p. 211.

Latum Mäkl., Bull. Mosc., XXVI (1853), p. 194.

Eighteen specimens, some from St. George, others from St. Paul. It is also found on the Kenai Peninsula as well as in northern Siberia, Caucasia, and temperate and northern Europe.

18. *Micralymma dicksoni* Mäklin

Mäkin, Öfv. Finsk vet. Soc. Förh., (1877), p. 24.

Sahlberg, J., Vega Exped. (1885), p. 28.

One specimen collected by Dr. Hanna. I have also a series in my own collection given to me by Professor Kincaid, who captured them on St. George Island, as well as a series from northwest Siberia, not far from the type locality, which agree perfectly with the Pribilof specimens. The species has so far only been found along the coast of Siberia from the mouth of the Yenisei River east to Bering Strait and on the Pribilof Islands.

BYRRHIDÆ**19. *Byrrhus fasciatus* Fabr.**

Fabr., Ent. Syst., I (1792), p. 85, 4.

Not found by Dr. Hanna, though collected there by Professor Kincaid. It is found also on Unalaska Island and the Seward Peninsula, as well as throughout Europe and northern Siberia.

ELATERIDÆ**20. *Cryptohypnus littoralis* Esch.**

Esch., Thon Entom. Archiv, II (1829), I, p. 33.

Dej., Cat., 3rd Ed. (1833), p. 105.

Germ., Zeitsch. V (1844), p. 137, 3.

Mann., Bull. Mosc., XIX (1846), p. 510.

Not found by Dr. Hanna, but secured previously on the islands by Professor Kincaid. It is found also on the seacoast of Atka, Unalaska, and Kodiak islands, as well as on the Kenai Peninsula and at Kukak Bay (Kincaid, Harriman Exped.). It is also reported from Kamchatka.

21. *Hypnoidus musculus* Esch.

Esch., Entomographien (1822), p. 70.

Esch., Thon Entom. Archiv, II (1829), p. 33.

Mann., Bull. Mosc., XVI (1843), (Sep. p. 66).

One specimen. Taken in numbers previously by Professor Kincaid. Found also on Unalaska and Kodiak islands, the Kenai Peninsula, Wrangel Island, and Queen Charlotte Islands.

CHRYSOMELIDÆ

22. *Chrysomela subsulcata* Mann.

Mann., Bull. Mosc., XXVI (1853), p. 247.

A large series, including specimens from both St. George and St. Paul islands, the latter the type locality. They show a great variation in color, ranging from brilliant green, through blue, bronze, to black; also in size and in sculpture, most of the specimens having the elytral intervals subcristate with the striæ deeply impressed while others show intermediate degrees of development to certain small specimens which have the intervals very flat and the striæ hardly indicated except by the punctures. The life history of this interesting willow-feeding species was described by Kincaid⁷. It was not found on the Aleutian Islands, even after a most careful search, but it has been reported from Popof Island (Harriman Exped. 1900), and Camden Bay and Collinson Point, Alaska, Arctic Coast (Canad. Arctic Exped., 1919). Related but distinct species are found on the opposite Siberian Coast.

EURYSTETHIDÆ (ÆGIALITIDÆ)

23. *Eurystethus* (*Ægialities*) *californicus* Mots.

Mots., Bull. Mosc., XVIII (1845), p. 33.

Debilis Mann., Bull. Mosc., XXVI (1853), p. 180.

Seidlitz, Deutsch Ent., Zeit. (1916), p. 127.

Van Dyke, Entom. News, XXIX (Oct., 1918), p. 307.

Nineteen specimens, several of which have a much narrower and more cylindrical prothorax and generally narrower afterbody, including the elytra, but otherwise not different. This insect, perhaps the most distinctive of the North Pacific, has

⁷ Harriman Alaska Expedition, Vol. VIII, Insects, Part I (1904), p. 199.

been found on all of the Commander Islands, the Aleutian Islands, Kenai Peninsula, Sitka, Queen Charlotte Islands, and Vancouver Island. It has not so far ever been captured on the coast of either Oregon or California, but it is replaced in the latter by other species of the same genus.

CURCULIONIDÆ

24. *Lophalophus inquinatus* Mann.

Mann., Bull. Mosc., XXV (1852), p. 351 (Sep. p. 135).

Mann., Bull. Mosc., XXVI (1853), p. 244 (Sep. p. 231).

One specimen. Found also on Atka, Unalaska, Unga, Kodiak and Afognak islands, the Kenai Peninsula, and at Sitka.

25. *Lephyrus palustris* Scopoli

Scopoli, Entomologia Carniolica, etc. (1763), p. 33.

Not found by Dr. Hanna, though secured by Professor Kincaid on St. George Island. I have wing cases taken by myself on Unalaska Island; also specimens from Nome and Teller, Alaska. It has also been taken at Bernard Harbor, Northwest Territory (Can. Arctic Exped., 1919). These are the typical *palustris*, agreeing perfectly with the typical form from Europe. The subspecies *canadensis* Csy., which is found in the Hudsonian and Canadian faunal regions more to the south, of which I have specimens from Rampart, Tanana, and Dawson, is quite distinct, as is also the subspecies *geminatus* Say, the common form in the Eastern United States, and the subspecies *perforatus* Csy. of British Columbia and Washington. The true *palustris* is also found throughout Europe and Arctic Siberia.

26. *Trachodes ptinoides* Germ.

Germ., Insect. Spec. Novæ Halæ, XXIV (1824), p. 327.

Mann., Bull. Mosc., XVI (1843), p. 249 (Sep. p. 120).

Thirty-eight specimens from St. George Island. Found also on Atka, Unalaska and Akutan islands, at Yakutat, Wrangel, on the Queen Charlotte and Vancouver islands, and the mainland as far south as California. It breeds only in the driftwood found